Prof. Edward Altman: High Yield Benevolent Cycle Not Yet Over

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Erik: Joining me next on the program is Professor Edward Altman from the NYU Stern School of Business. Dr. Altman is perhaps best known for the Z-Score measure of credit, which we'll discuss in this interview.

Before we get started, though, Dr. Altman provided a fantastic slide deck. Listeners, you will find the link to that slide deck in your Research Roundup email. If you're not yet registered, just go to macrovoices.com, look for the red button next to Dr. Altman's picture that says "Looking For The Downloads."

Dr. Altman, I'd like to start with the really big picture. So many people in finance have said, okay, that's it, the secular bull market is over. The secular bear market is on. Once we break 3.10 on the 10-year, baby, it's all over after that. Yields will never go lower. The market's headed straight down in terms of price.

And, of course, what we've been seeing in the last several weeks is the exact opposite. So what's going on here? Where are we in the cycle? Are we really at the beginning of a new cycle or the end of an old cycle? And, if not, where are we in the cycle? And what are the signs we should be looking for to tell us whether and when it's ending?

Edward: The fact of the matter is that we are not yet out of what is the longest and perhaps most impressive bull market in risky debt of all types ever since the last crisis of 2009. And we are not over that yet. So it's too early to indicate that in fact the benign credit cycle is over.

Before we even talk about whether it's over and how strong it's been and the like, I think it's very important to define what we mean by a credit cycle and what we mean by a benign cycle or a stress or a crisis situation.

On the first slide that I have, I point to a number of important variables that I think one should look at.

One is the default rate of corporate securities. Now, I've always concentrated on the high-yield junk bond market, and so that's the metric I use. Historically, around 3.4% of high-yield bonds on average default every year. And, of course, the investor doesn't lose that because there's usually a significant recovery if there is a default. But default rates are the first metric I look at.

And we are still way below the historic average. This year, finishing up very soon in 2018, the rate should be around 1.5% of default – way below the 3.4% rate. So that metric shows we're still in a benign cycle.

The second metric is the recovery rate. That is, if there is a default, how much do you recover on it? Historically, around 45 cents on the dollar for corporate bonds and about 65 cents on the dollar for corporate loans. This year it will come in at the high 50s, close to 60%. And so, again, it's an indication of a benign cycle.

The third variable is the yield. You mentioned the fact that the government rate now is at 3.1%, but for risky debt we measure the so-called risk premium or the yield spread over the government rate. And usually the 10-year rate is the benchmark. Historically, that's around 5.25% above the government rate for high-yield bonds. And this year it's up. Yes, in the last month or so, given the volatility and the downturn in the stock market and the bond market, it's up to around 4.5%. Still, a fair amount below the historic average, indicating we are still in a relatively low-yield low-risk environment. And, indeed, the government rate is no longer 3.1% but down to about 2.8%. So we are still in a benign yield situation.

And, finally, the last variable is liquidity. And liquidity, while definitely has diminished with the volatility of late and the concern about the future from all investors (just about) in the world, the liquidity is still, however, historically speaking, quite good. And even very low quality companies, like triple-C bonds, are able to raise money fairly easily in the market.

So all of those variables – defaults, recoveries, yields, and liquidity – are all saying we are in the benign cycle.

If you look at the next slide (3), which shows you the relationship between default rates – that's the line graph – the historical default rates, benign credit cycles, and recession periods in the US – the yellow bars represent recession periods. In the US, we're very fortunate to have many recessions and, as a result, we have good measurement of the relationship between defaults and recessions.

You will notice that in the last three recessions, which are the most relevant ones in terms of the size of leveraged finance in our world, the default rates tend to peak just after the recession ends, whether it be in the '90–'91, '01–'02, or '08–'09 period. But notice also they start rising before the recession actually begins.

So there's no question in my mind – and maybe this preempts a question you will ask later – that in order for us to have a true crisis situation, with escalating default rates in the high-yield market of above 10%, we're going to need a recession. And, without that recession, we will not have a crisis situation, I am convinced.

But I'm also convinced that we will have a recession. The question is when. And we can get to that in another question.

So that, in a nutshell – maybe a little bit big nutshell – is the way I look at the credit cycle. We are in a benign cycle. We are now just about nine years into it, the longest, by far now, since the modern economic period. It's not likely that we will leave that for at least 6 to 12 months.

Erik: Let's talk, then, about where you see the biggest risks going forward. Because a lot of people, myself included, have felt like, hey, everybody's focused on maybe the stock market is crashing someday.

I think more about credit markets crashing. But I wonder where. Is it in high-yield? Is it in Treasuries? Where do you see the biggest risks? What do you see coming? And how would we know when it's time to start worrying about those things?

Edward: Those are all great questions. And complicated ones. If you look at Slide 10, I list the major risks going forward. But these are the risks that, if they occur, then a crisis is fairly imminent. As opposed to, perhaps, some other variables that might point to when we first indicate that there is a change in the cycle.

By far, from a fundamental standpoint, the biggest risks are global economic performance – primarily in the US, China, and, to some extent, Europe – and their impact on the four variables that I mentioned: defaults, recoveries, credit availability, and quality of credit.

What really, then, is important to focus on is the fundamental economic activity and performance of the major economies of the world. And that, primarily, is the US and China. Both, now, are relatively high growth situations.

The US, certainly, through the third quarter of this year was growing at 3.5% – 3%, maybe, for the whole year. GDP growth in China has been miraculously averaging 6.5% to 7% for as long as anybody can remember.

Both of those are likely to end very soon. The question is: Will they be hard landings or soft landings in terms of how much they will settle down into?

So I look to a number of the so-called macroeconomic pundits. And they're pretty much – I wouldn't say all in agreement, but a lot of them are in fairly strong agreement that the downturn in the US economy is likely to happen in 2020. And it could result in a recession either then or soon thereafter. I would say certainly more than 50% of the economists that I've read or talked to.

And, China, I think everyone now pretty much agrees that their growth rate will not for 2018 be 6.5% or above, and that it will fall. And the question is how much below that. And then what will happen soon thereafter?

What's causing these fairly pessimistic scenarios?

In the case of the US, the biggest stimulus to growth in the last two quarters has clearly been the tax break that the Trump administration put through. And that's just about finished, with some residual benefits, but a lot of that tax benefit did not result in increased productivity. The money wasn't reinvested. It was either paid out in the form of dividends – which is nice for short-term consumer growth – or it was used to buy back stock of companies, which doesn't do anything for the productivity of the economy.

As a result, that influence is now almost finished. That could drop GDP a couple of percent right there. The trade wars are certainly not doing any good to the growth rate, even though some small number of producers will benefit.

And, in China, there is no question that the low-cost Chinese goods are now being duplicated in other countries. The Chinese are very worried about the huge growth in debt in their economy. So they are putting the clamps on the debt – very appropriately, by the way – and that has to be a negative on growth.

So if it comes in at 5.5% or 5.75% for China – and even lower in years to come – it wouldn't be a surprise. That will be a real, real hit in the stomach to a number of countries that trade a good deal with China. I'm thinking (in Europe) of Germany and of Japan – a number of other countries whose dependence on Chinese growth has been a strong stimulus for their own growth.

So that is the biggest one for me, that global economic performance.

India is now showing some weaknesses too, especially in the news today about their conflict between the administration there and the central bank – and the need to put a clamp also on the growth of debt in the economy because of the high non-performing loans in their backing system.

Europe is back to having problems again. Brexit isn't helping. So there's very little optimism now. And what that all means, of course, is, potentially, its impact, not only on themselves, but on the emerging markets, which is not good.

Falling oil prices, I didn't think there was much chance that we would fall back to $50 a barrel a few months ago. And here we are, we're back to $50 a barrel. Anything lower than that, that's going to trigger a resurgence in defaults in the energy industry, particularly fossil fuel and natural gas following that. So that's not good, that relationship. And I think that's going to be a problem.

For me – and I want to come back to this later, Erik, when we have time – I want to emphasize the most consequential impact of the next downturn in defaults in the credit cycle. And that is, this time, the global debt situation is so much larger than ever before. The consequences could be really dire. And I have some graphs to show you that as well.

Finally, among the five bullets that I'm going to mention – and there are some others as well – I look at my Z-Score model and what is that telling us about the credit quality of corporate America? And whether or not it's different than what it was in 2007, which was just before the Crisis.

So, in terms of major risks going forward, I think you can look at that slide and you can probably see that there are lots of them. Some are technical, some are fundamental, and some are based on what could happen. But the outlook – if we do have a downturn – is going to be pretty serious because of the incredible buildup in global debt. Here I'm emphasizing global, not just the US. So hopefully that covers the major risk going forward.

I should mention (at the very bottom) there's always the risk of something (or, in this case, the uncertainty) of something that we didn't know about, we didn't think about, that happens – something geopolitical. Not only a moderate, but a huge trade war, protectionism etc., something that's hard to put a probability on. But, when it happens, it usually turns things very quickly.

And the one variable on my list of credit cycle indicators that changes the fastest, and one that you'll know it very quickly when it happens, is liquidity. That can literally dry up when somebody turns off the faucet. And you know that doesn't take very much time.

We can pursue any one of those, if you'd like. But I do want to get back to the global debt excess and combining that with interest rates.

Erik: I definitely want to come back to that one, because it's near and dear to my heart. But, before we go there, let's just spend a quick minute on your Z-Score model. A lot of our listeners are already familiar with it. But, for those who are not, give us just the very quick overview.

What is Z-Score? What does it tell you?

Edward: It's a model I built 50 years ago. And I'm as surprised as anyone that it's still around and – not only around, but it's actually used more than ever before. It's a model that looks at the basic performance attributes of companies, from their financial data – balance sheets, income statements, cash flows, and the like – looks at five financial indicators.

Some of them were new at the time, but none of them are exceedingly unusual – looking at **liquidity aspects, profitability, solvency, leverage, and activity** – **those are the five measures**, each one represented in a financial ratio from the most recent balance sheet or income statement of a company.

And then, based on the statistical programs that I've run back when I was a graduate student at UCLA – I wasn't that old but I was old enough to know that I needed some support from mainframe computers (which just started then), from statistical programs (which were now

available on mainframes), to use those algorithms to come up with a weighting system of those five variables.

The technique is a statistical discriminative analysis technique which gives the weightings – and those weightings are determined by the computer program, not by me – to achieve the highest accuracy in predicting bankruptcy within two years. And those five variables, weighted appropriately, have been for 50 years now – there's three reasons why they're still around.

First, it's really simple. You don't have to be a statistical guru or a math genius to understand it or to interpret it.

Second, it's been pretty accurate. I'd say 80% to 90% accuracy within two years of the bankruptcy, to predict it accurately.

And, three, it's free. You don't have to pay for it.

Acting with a large number of studies that use it as a benchmark – in other words, it's easy to replicate and compare with new models – has really jettisoned it into prominence, not only among individuals and banks and the like, but also to be used for a large variety of purposes.

And it's the standard measure – prototype, if you will – for banks and other regulated institutions to use in estimating their probability of default and loss given default of their counterparties, which is critical for their capital allocations under the Basel regulatory framework.

So those variables and its background are the reason why it's still around, why it's thriving. And, indeed, I used it to compare the profile of corporate America back in 2007 just before the Crisis and today. And to see whether or not the creditworthiness of US companies had improved or not.

The bottom line from that – and there's a chart that your readers can look at more carefully when you have time, Slide 9 in the slide deck – if we look at '07 versus '17, we see that the average in median Z-Score has actually improved. But very, very little. And, statistically, I think most statisticians would conclude that it's statistically insignificantly different than it was in '07.

Which means that, even though companies are more profitable and they have more liquidity and there's all sorts of mechanisms today that weren't around ten years ago to keep them out of the bankruptcy courts, still their fundamental credit profiles are about the same as they were in '07. And, in my mind, that's bad news because '07 was right before the Crisis.

So, what do we need? Z-Score is telling us that we need to not go into a recession because that's what happened in '08–'09.

But, interestingly enough, that recession was caused mainly by the financial markets. It wasn't

caused by fundamental growth problems in the economy. If you add to the picture a negative economic fundamental scenario, then you've got the possibility that we could go into that recession or downturn significantly in a very short period of time.

So that's a little bit of background on the Z-Score.

Erik: Let's come back to that subject of the impact of just how much debt we have when we do get into trouble here. Because, on the one hand, you're preaching to the choir. I couldn't agree more. We've got so much debt in the world now, even negative-yielding sovereign debt – 20 years ago if you told somebody there was going to be negative-yielding sovereign debt they would have thought you were crazy.

But here is the thing, Professor, that hangs me up. When Ross Perot told us in 1992 *$5 trillion dollars of federal debt is unsustainable*, he was right. His argument made sense. But somehow they keep getting away with this.

So, how is it possible that we keep amassing more and more debt without anything breaking? And why is it that we should be concerned, particularly now, at this juncture, that maybe it's going to be different?

Edward: The timing of this is also very tricky, Erik. And let's first talk about the level of debt that we're talking about. And Ross Perot's $5 trillion is really tiny compared to what we're talking about today.

If you look at Slide 5, it shows the investment grade and non-investment grade corporate sectors in the US – the leverage in the system (just the bonds outstanding, not even the loans) – and you'll see the incredible growth since 2007 in investment grade, mainly the so-called triple Bs. Then there is the growth in the high-yield or junk bond area from about $1 trillion in '07 to $1.7 trillion in 2018. So we're talking about over $9 trillion just in corporate bonds.

If you add loans to that, you're probably doubling it, or close to that. And certainly in the leveraged loan sector, which is the equivalent to high-yield for lending for loan markets, we're talking about even more growth.

So we're talking about more than doubling of growth in 10 years, when we had the last recession, we had so many problems. And that's just non-financial corporate debt in the US.

If you then look at Slide 6, and you take a look at something which very few people evaluate, but I look at it very carefully, the solid (blue) line represents non-financial corporate debt as a percentage of GDP. So it's like debt to cash flow for an economy – in this case, the US.

And that, you notice, has had three peaks around the last three crisis periods. We had '90–'91, we had '01–'02, and '08–'09. The dotted line (red) is the time series of default rates in the high-yield sector. And that has had three peaks within 12 months of the peak of the debt level

in the last three recession cycles.

So is it just by chance that default rates peak after a peak in debt? Well, I don't think it's by chance at all. It shows the relationship between the growth in debt and the growth in defaults, combined with the catalyst being the economic cycle.

Now, look at the current situation and you find that the level of non-financial corporate debt as a percentage of GDP is at a new peak, and the highest it's ever been, at more than 46% of GDP.

But, down at the bottom, you see that the default rate is still very low – under the historic average, by far. The one blip up in recent years was 2016 when we had the oil default crisis. And that was specific to the US and the shale industry. But it could happen again and it could spread to other countries as well if the price of oil continues its downward trend.

Now, the question is, of course, this red line – if and when that will rise, and I'm sure it will – if we have a recession – and then the question is, what will be the impact? And the consequence?

And look at that level of non-financial corporate debt as a percentage of GDP – it's at an all-time high. So, like your concerns with this, I have the concern. But now I've got the evidence to show what happens when things turn in the credit cycle.

Next slide (7), let's go to the global situation, not just the US. And that shows **four main sectors of any economy**: **non-financial corporates, government, the financial sector, and household**. Those four together amount to an economy's total debt. If you add up all the economies of the world, you get global debt.

And in three of the four cases – non-financial corporates, government, and household – we've had an incredible increase in 20 years. Actually, in all four sectors, in 20 years. And in the last 10 years non-financial corporate debt has gone from (as a percentage of GDP) 77% to 92%. That means 92% of the GDP of the world is the level of non-financial corporate debt.

Now, you asked the question before: Why has all this debt in the past not caused the crisis – we've always been able to come out of it? Well, that's true. We have. And it was mainly the incredible liquidity pumping by the central banks of the world that has done it several times.

And the question is: Can they do it again?

And the other thing is they did it to curb (usually) one of these four sectors' problems. There was the household debt back in '07–'08 followed by the corporate sector in '09. Now we've got government debt going from 58% of GDP globally 20 years ago to 58% – no change in government debt, at least in terms of percentage of GDP, in *those* 10 years. But now it's gone to 87%.

Incredible increases to finance, among other things, trade deficits, lower taxes, and generally

poor economic activity. And so government debt has skyrocketed.

Financial debt had its big growth between 20 and 10 years ago. It's actually lower as a percentage of GDP now as the banks of the world have had to refinance and add equity to their capital structures in the wake of their crisis. But still it's at a pretty high level of 80%.

And household debt has gone from 42% to 59%. Not so much a problem in the US. The government seems to have that under control at this point. And that's a good thing.

But in many other countries it's the number one problem that the central banks point to. I visited Scandinavia last year, and by far they are worried about a replica of what happened in the US 10 years ago. And now they're looking at their own situation and saying it's getting out of hand, as it is in some other countries as well.

Put it all together, we are about 100 percentile – not 100 percent but 100 percent percentages – higher in debt to GDP than we were 20 years ago, and 50 percentage points higher than 10 years ago. Put it all together, my conclusion to this is twofold:

One, yes, a lot of debt. So if we have a downturn, a lot more defaults. I think that's pretty clear, in almost all sectors. But, interestingly enough (and this I don't have the exact data on because it's not necessarily easy to know this), my opinion is that a good deal of the growth in GDP in the last 10 years (and we've seen it in a number of countries in the world, both in Asia and now in the US) has been on the back of low-cost debt.

In other words, countries and companies have been able to finance their growth with very low-cost debt. You mentioned negative interest rates before, at least in Europe, and close to that in the US. That's been the catalyst to growth.

And now with that growth in debt likely to go away, because of the fear of the debt buildup being too high in countries like China and other countries including the US probably, there won't be that low-cost debt. Especially if interest rates are high but even if they stay the same – with the governments clamping down on the growth of debt in the fear that this could be the biggest problem if we have a downturn again.

So I'm pretty convinced that a lot of that growth is – you know, you don't have to grow very much in terms of cash flows, GDP, etc. if you have a very low interest rate to pay on the bulk of the financing you use for that growth. And we haven't seen the big growth coming from productivity, at least not of late.

So, that is, in a nutshell, my concern with the level of debt and the cost of the debt over the last 20 years and where we are today.

Erik: Dr. Altman, I can't thank you enough for a fantastic interview. Before I let you go, though, you have a fourth edition of one of your books coming out from Wiley Finance in

March. Tell us a little bit about what's new and what our listeners can expect there.

Edward: Thanks for asking. Yeah, 100 years ago I did the first edition – just kidding, but it is a long time ago – of *Corporate Financial Distress and Bankruptcy*, a John Wiley publication. And every 10 to 15 years I decide it's time to redo it and come out with a new edition with two great colleagues, Edith Hotchkiss and Wei Wang. We are now just finished and put to bed the fourth edition. It should be out in March 2019.

Now it's a somewhat expanded title: *Corporate Financial Distress, Restructuring, and Bankruptcy: Analyze Leveraged Finance, Distressed Debt, and Bankruptcy*. It really brings up to date a large amount of data, information, theory, etc. that has come on the scene ever since the third edition, which was in 2006. So looking forward to that and hopefully some of your readers will be interested in looking at it as well.

Erik: Thanks so much. We really appreciate an excellent interview. Patrick Ceresna and I will be back as MacroVoices continues right here at macrovoices.com.